UNIL | Université de Lausanne
Department of Plant Molecular Biology
Biophore Building
CH-1015 Lausanne

2 PhD positions: Mechanical heterogeneities in plant development

Employment: Fixed term (maximum duration 5 years).

Workplace: Department of Plant Molecular Biology (DBMV), Faculty of Biology and Medicine, University of Lausanne (Dorigny), Switzerland.

Starting date: August 2022 (negotiable).

Project description: Plant cells are surrounded by cell walls, which prevent them from moving; thus, cell shape must emerge from carefully regulated growth of neighboring cells. At the cellular level, turgor pressure generates high forces on the walls, which need to be rigid to withstand high tensional stress, yet they also reorganize to regulate cell expansion. These two aspects of cell walls are linked to mechanical properties likely not evenly distributed along the cell wall.

In our research, we aim to understand the implications of mechanical heterogeneities in plant development. We undertake interdisciplinary questions combining genetics and developmental biology with quantitative, biophysical, and computational tools. The primary interest of the lab is to understand how the mechanical heterogeneities emerge and how they contribute to the robustness of stems in *Arabidopsis*, and woody plant species.

Environment: Research in the Department of Plant Molecular Biology focuses on the elucidation of molecular mechanisms in plant development, abiotic stress response and biotic interactions. It hosts eight internationally recognized research groups. As part of the Faculty of Biology and Medicine, the Department has access to a number of state-of-the-art technology platforms, including genomics, proteomics, imaging, and bioinformatics core facilities. We are a new, dynamic, and interdisciplinary research team of friendly, and highly interactive people.

Required: MSc degree or equivalent. Previous experience in plant molecular biology, or biophysics or engineering/computer science is a plus. Good command of English (no French skills required).

Application: Please send a motivation letter, curriculum vitae, copy of university degrees/transcripts*, and a list of at least two referees familiar with your qualifications to: Dr. Mateusz Majda, subject: "PhD application" (Mateusz-Majda@outlook.com).

Further information: visit https://majdalab.com or mail Mateusz-Majda@outlook.com

Deadline: Applications will be screened continuously until a suitable applicant is found.

*Copy of the university degrees/transcripts is not required before the invitation for interview.